

The Round Headed Apple Tree Borer

Saperda candida Fab.

The roundheaded apple tree borer is found throughout Pennsylvania and is sometimes very destructive to young apple and quince trees. In addition to the two trees mentioned this species is known to attack mountain ash, service berry, wild crab, hawthorn and chokeberry. Orchards adjacent to woodlots are often more severely injured owing to the native host trees, which are often found growing in these areas.

Life History: The eggs are laid at the bases of the trees by adult females, which first make egg scars with their sharp mouthparts. One cream colored egg is deposited in each egg scar. These eggs hatch into small cream-colored larvae, which start boring just beneath the bark. The larvae require at least two years for development, in the course of which they work into the roots and heartwood of the trees. Trees suffer not only from the girdling of the cambium, but by the weakening of the wood, which often causes them to be blown over by the wind.

When the larvae are fully grown, they gnaw passageways or burrows from the heartwood where they were last working toward the outer surface of the tree. These burrows do not extend to the outside and are to permit easy exit of the adults later. After these burrows are completed, the larvae return to the heartwood and prepare pupal cells, where they become pupae. The pupal stage is of short duration and is the resting stage of the insect.

These pupae then transform into mature adults which emerge from the trees by gnawing away the remaining parts of wood between the exit burrows and the exterior. The adults are handsome creatures, chocolate brown in color, with a pure white stripe on each side of the dorsal surface. Due to their retiring habits, they are seldom seen.

Control: The following methods of control are advised:

- (1) Destroy all volunteer and wild apple trees in the vicinity of the orchard. The native host plants in adjacent woodlots should also be eliminated.
- (2) Keep all weeds and grass away from the bases of the trees. The adults prefer shaded localities for laying eggs.

- (3) A certain degree of protection may be obtained by repellent washes. The most practical of these is lime sulphur sludge or lime sulphur diluted at the rate of one to seven and made into a heavy wash by the addition of lime. This wash should be applied around the bases of the trees with a brush about the middle of May and again about the middle of June.
- (4) Worming of infested trees is the only satisfactory method of control after the eggs have been laid. This is best accomplished with a sharp knife and a thin wire with a loop on the end.

Remove the earth to a depth of one inch around the base of the infested tree, carefully noting the old egg scars where sawdust has been thrown out by the larvae. By cutting into the trees at these points, one can usually locate the long galleries which run up into the heart wood. If the larvae are not found at the openings to the galleries, they can be killed by introducing the looped end of the wire. If a larvae is punctured in the burrow, it can be noted by examining the looped end. It is only necessary to pierce the larvae to destroy it. Early spring or fall is the best time to "worm."